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March 21, 1996

DANNY E. ADAMS
DIRECT LINE (202) 955-9874

William F. Caton, Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20554

Re: CC Docket No. 95-116
Telephone Number Portability

Dear Mr. Caton:

On behalf of DSC Communications, please take notice that on March 14, 1996, Alan Adams, of DSC, Steve Perry and Julie Raffensperger, of Dutko Associates, and I met with Bob Pepper, Elliott Maxwell, Don Gips, Jay Markley, Kalpak Gude, and David Wye of the FCC. The discussion concerned the attached materials regarding the effect of various proposed number portability methods.

In accordance with Section 1.1206 of the Commission's rules, an original and one copy of this notice and attachments are provided for inclusion in the public record.

Sincerely,

Danny E. Adams

Enclosure
cc: Bob Pepper
Elliott Maxwell
Don Gips
Jay Markley
Kalpak Gude
David Wye

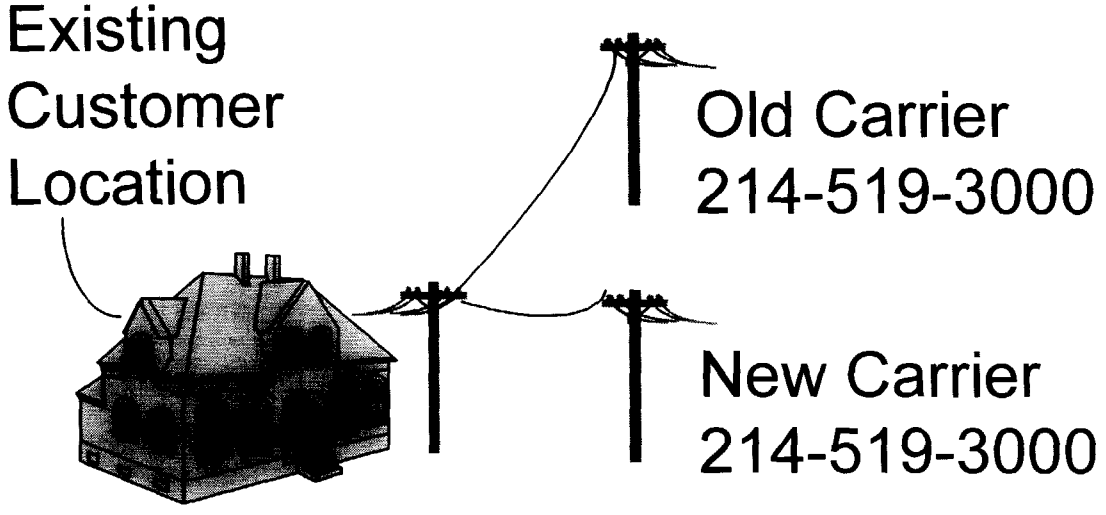
Number Portability

DSC COMMUNICATIONS

Definition

- Number Portability is defined by the industry in three categories
  - Service Provider Portability
    - Service Provider Portability enables the subscriber to change their service provider while maintaining the same directory number.
  - Geographic Portability
    - Geographic Portability enables the sub-scriber to physically move and maintain the same directory number.
  - Service Portability
    - Service Portability enables changing service type (e.g. POTS to ISDN) while maintaining the same number.

Service Provider Portability



Service Provider Number Portability

- Change to New Carrier
- Same Number
- Same Location

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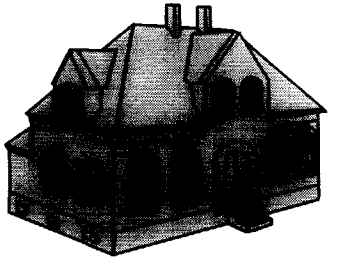
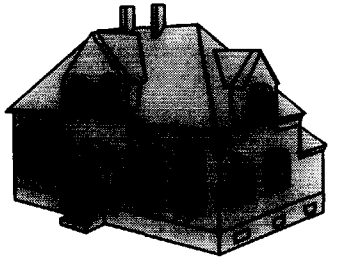
Geographic Portability

Old Customer Location



214-519-3000

New Location Same Number



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Geographic Number Portability

- New Location
- Same Number

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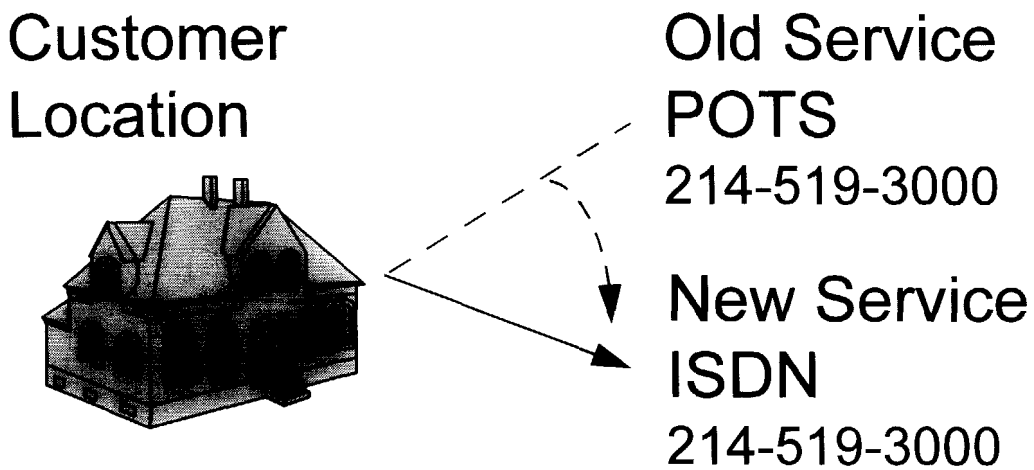
Service Portability



Service Portability

- New Service
- Same Number

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Portability Issues

- Service Provider Portability issues
  - Ensuring service availability and characteristics across multiple service providers
  - Ensuring no performance degradation between carriers
- Geographic Portability Issues
  - Ensuring service availability and characteristics across multiple service providers
  - Ensuring no performance degradation between carriers
  - Billing issues on toll calls - Who pays when customer ports out of local calling area?
  - Called Party notification issues - How do you notify calling party of an unexpected toll charge?
- Service Portability not being addressed by industry at this time

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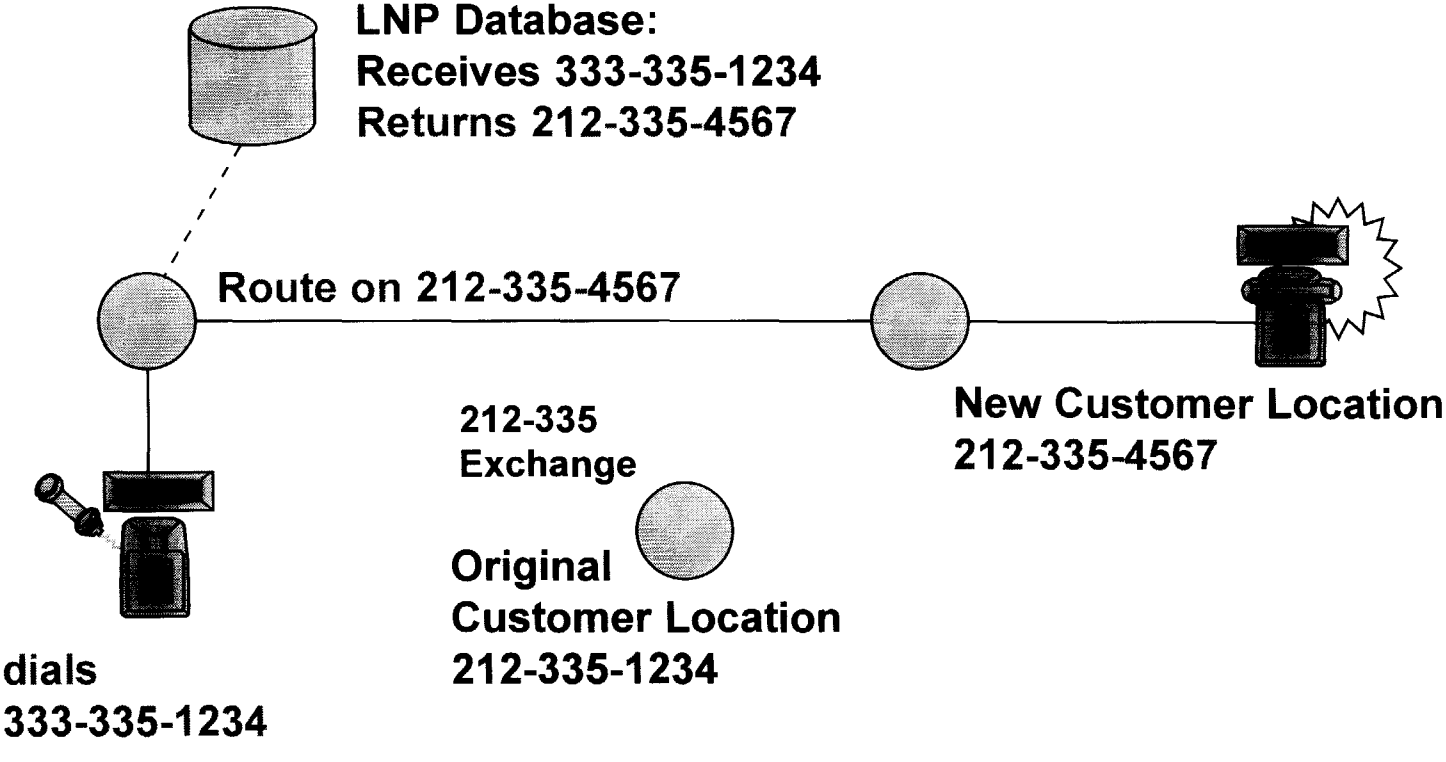
Routing Impacts

- Current thrust of industry is on Service Provider and Geographic Portability within local calling area
  - Both impact current network routing methodologies
  - Prior to LNP,
    - the NPA-NXX of a dialed number was sufficient information to route to the serving switch
    - all stations under the NPA-NXX were at a single location (i.e., end office)
  - With LNP,
    - stations, i.e., customers, under an NPA-NXX can reside at locations other than the original serving office and original serving carrier
    - new routing mechanisms are needed to determine where the customer is located

Industry Proposed Solutions

NPA/SAC Code

- Requires number change to initiate
- Perceived as exhausting numbering plan
- Limits database queries to new set of portable numbers
- Adds complexity to existing service handling



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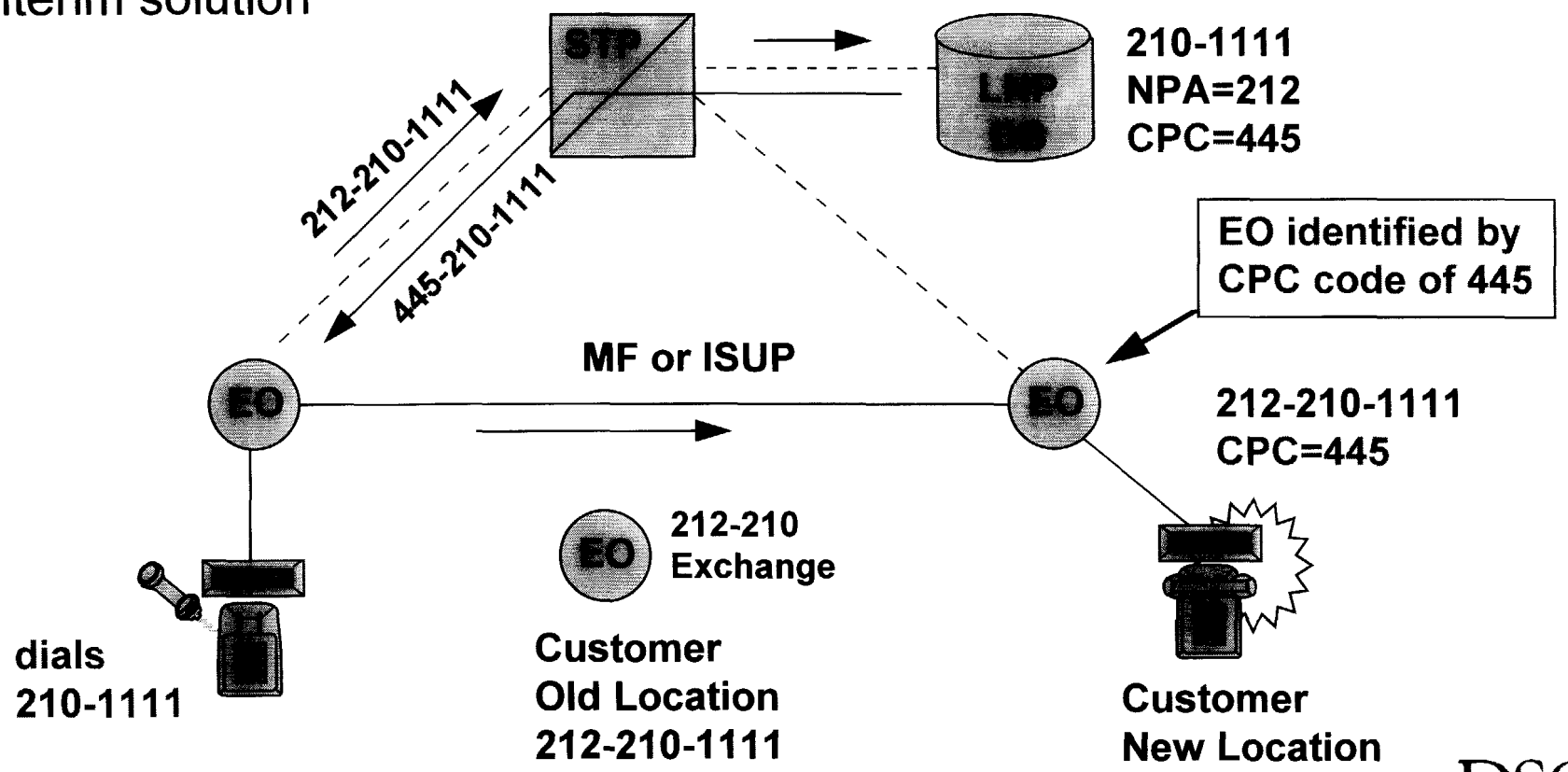
Customer Portability Code (CPC)

- Designed for service provider portability
- Currently identified as an interim solution
- Exhausts numbering plan under geographic portability



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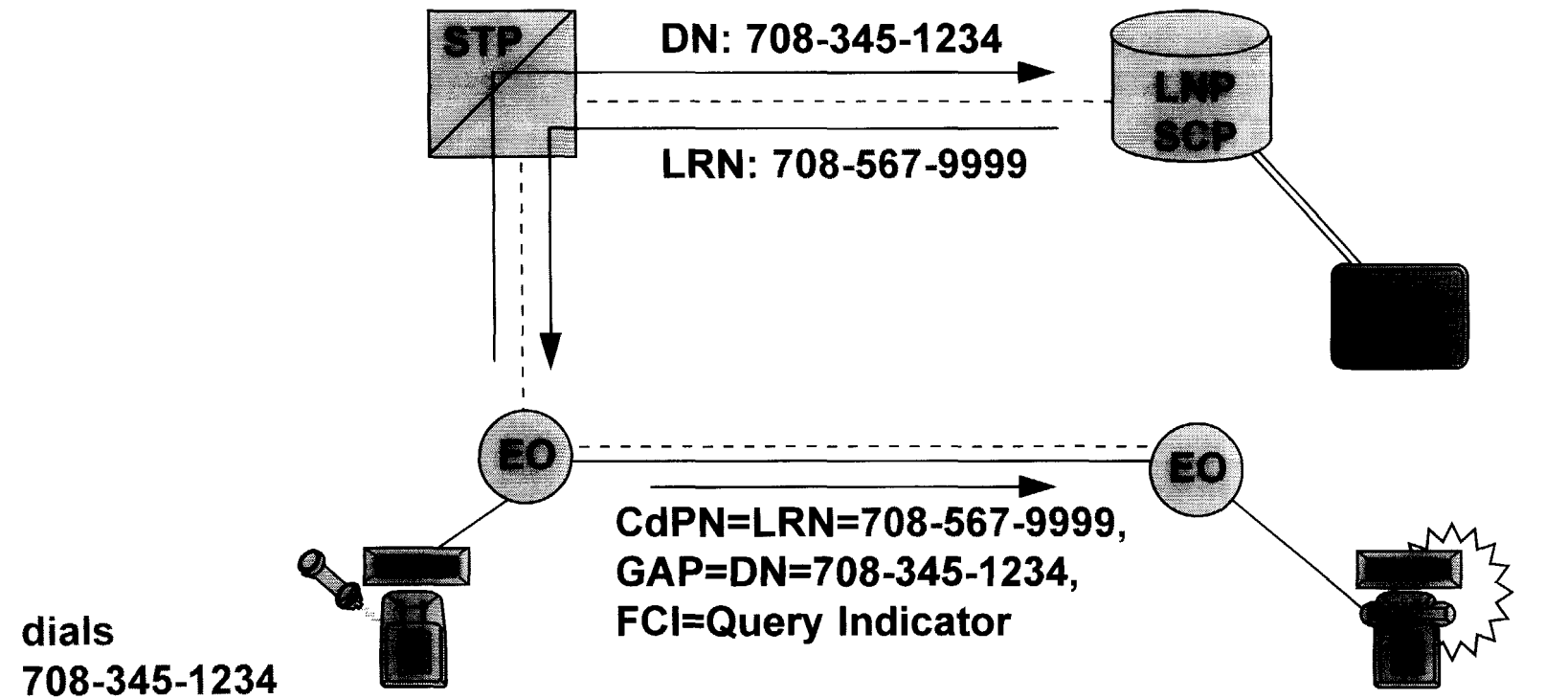
Local Routing Number (LRN)

- LRN is the preferred method in many fora
- Significant query traffic
- LRN database managed at network level by SMS



CdPN = Called Party Number parameter
FCI = Forward Call Indicator
SMS = Service Management System

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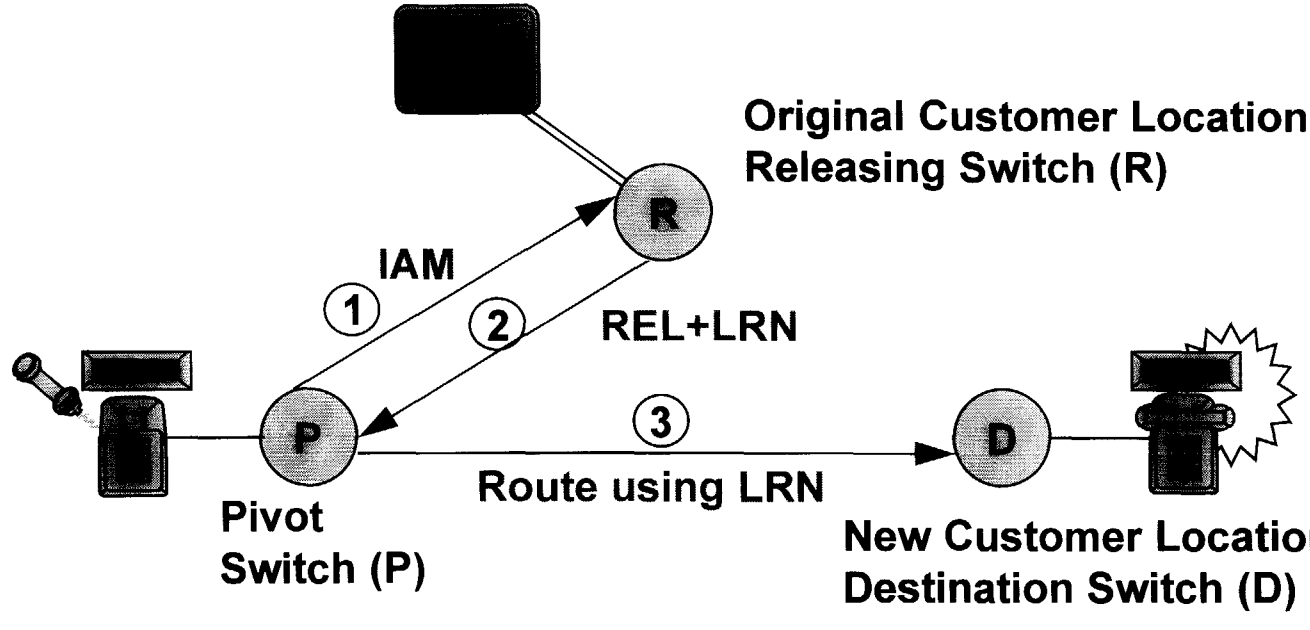
Release-to-Pivot w/LRN

- Switch-based solution
- No SCP involvement (i.e., no query needed)
- No impact to non-ported numbers
- LRN database management at switch level by SMS
- Calls must first route to original NPA-NXX location
- Could cause perceptible delay in call completion to ported numbers
- Increases number of switching elements involved in call



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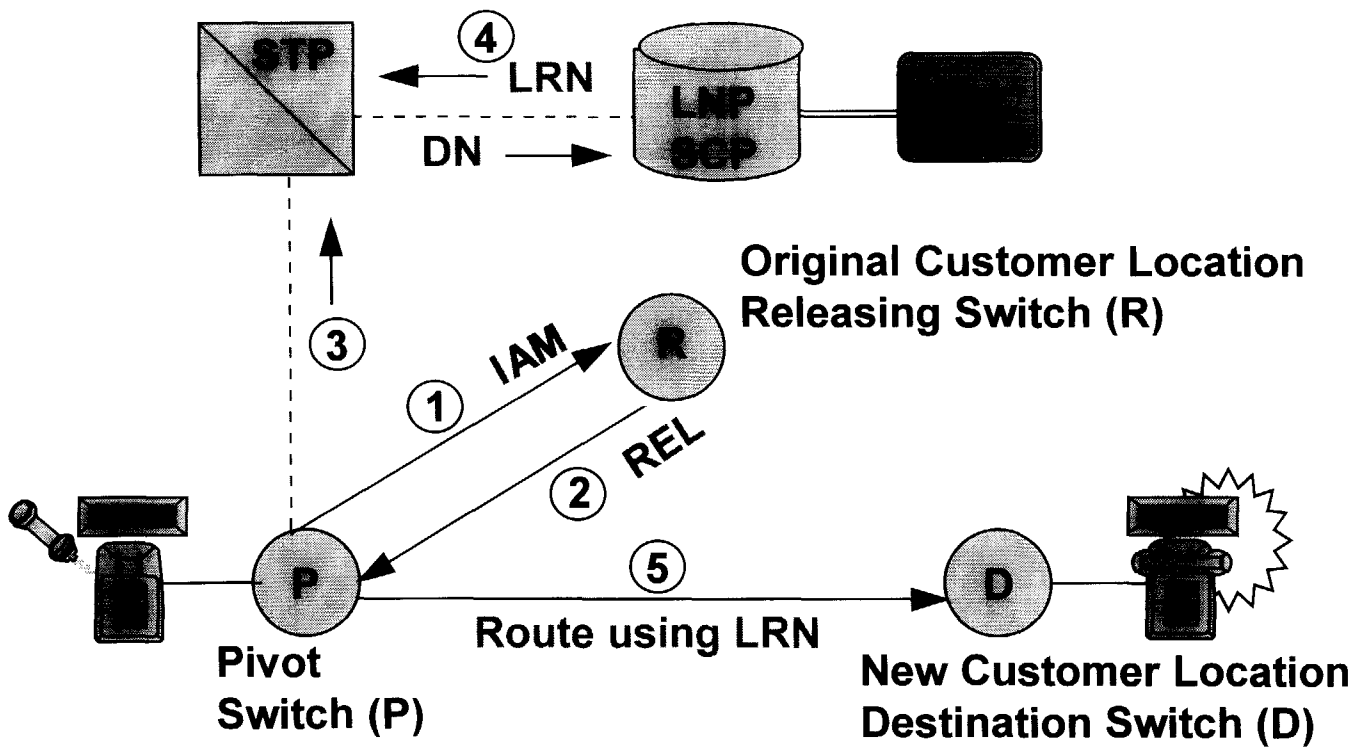
RTP Query on Release

- Perceived to significantly reduce number of queries
- Database resident on SCP instead of switch
- Calls must first route to original NPA-NXX location
- Could cause perceptible delay in call completion to ported numbers
- Increases number of switching elements involved in call
- No impact to non-ported numbers



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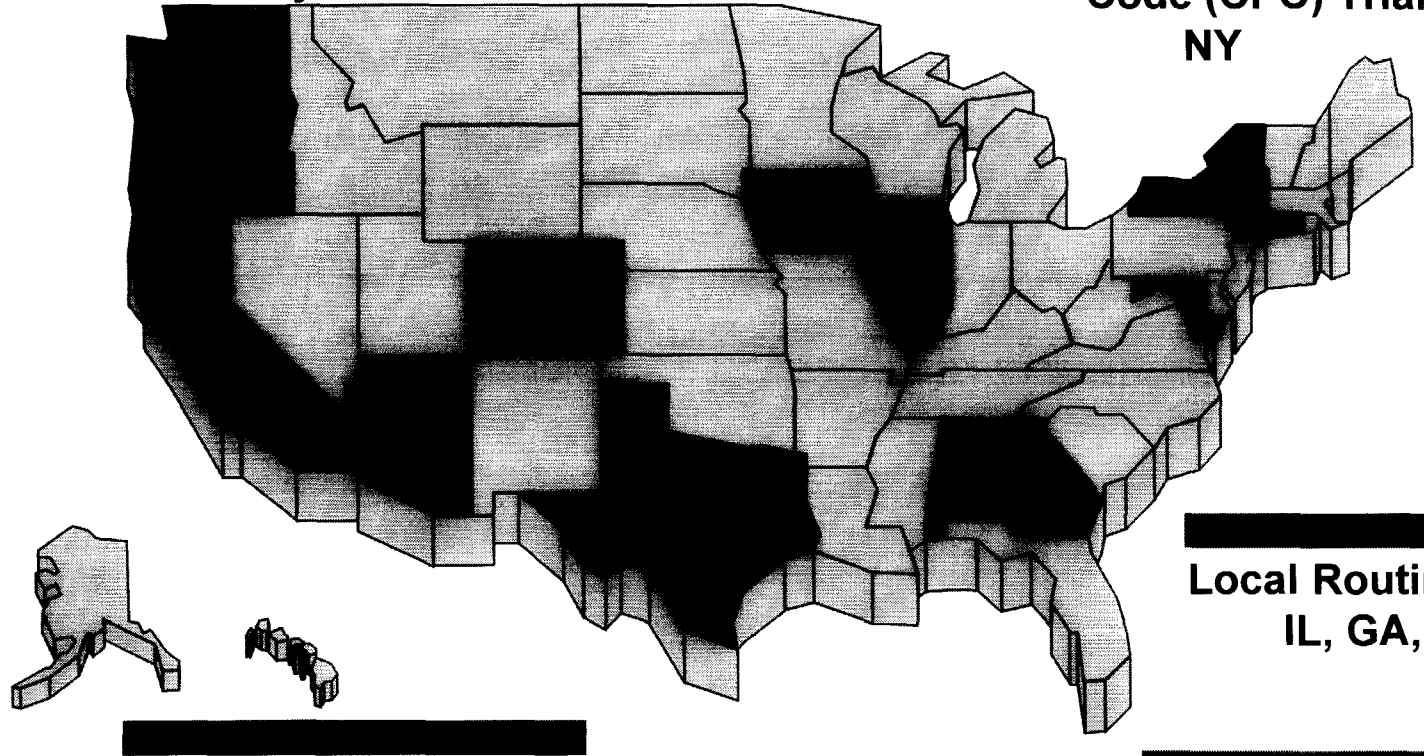
Selected Solutions

US Intelco Trial Completed
Significant Service Interaction Problems
Problems Varied by EO Manufacturer

Customer Portability Code (CPC) Trial
NY



Local Routing Number
IL, GA, MD, CO

Release-to-Pivot (RTP) with LRN?
CA

DSC Multi-Protocol Lab Demo - TX

Start-up activities
OR, CT, AZ, AL, TX

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Solution Impacts

- Each state is making their own decision on which solution to implement
  - Worst case is that each state selects a different solution or requires modifications to an existent solution
- Vendors required to support solutions
- Vendors have responded in Illinois time frame and requirements
  - Resulted in different trigger mechanisms and messaging by switch vendor
  - SCP vendors required to support all solutions

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Network Element Impacts

SSP Impacts

- Service Switching Point (SSP) no longer owns NPA-NXX
- SSP no longer knows destination routing based on NPA-NXX
- Database query required to determine routing

- 1997 in-service time frame forced multiple triggering mechanisms on the switches
- Adding appropriate call model
  - Same triggering mechanism across all switch vendors considered expensive
  - Three mechanism were identified to provide most cost effective and timely solutions
    - AIN 0.1 PODP-like, AIN 0.1 TAT-like, and TR-533 based triggers

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SCP Impacts

- Service Control Point (SCP) Impacts
  - Service Development and Deployment
  - Increased capacity demands
  - Three service sets based on SSP implementation
    - AIN 0.1 originating trigger messages
    - AIN 0.1 terminating trigger messages
    - IN/1 trigger messages
  - SCP required to support all three service sets

  Possible deployment of STP functionality on SCP
    - i.e., global title translation (GTT) due to large database size
      - GTT requires SCCP management procedures on the SCP

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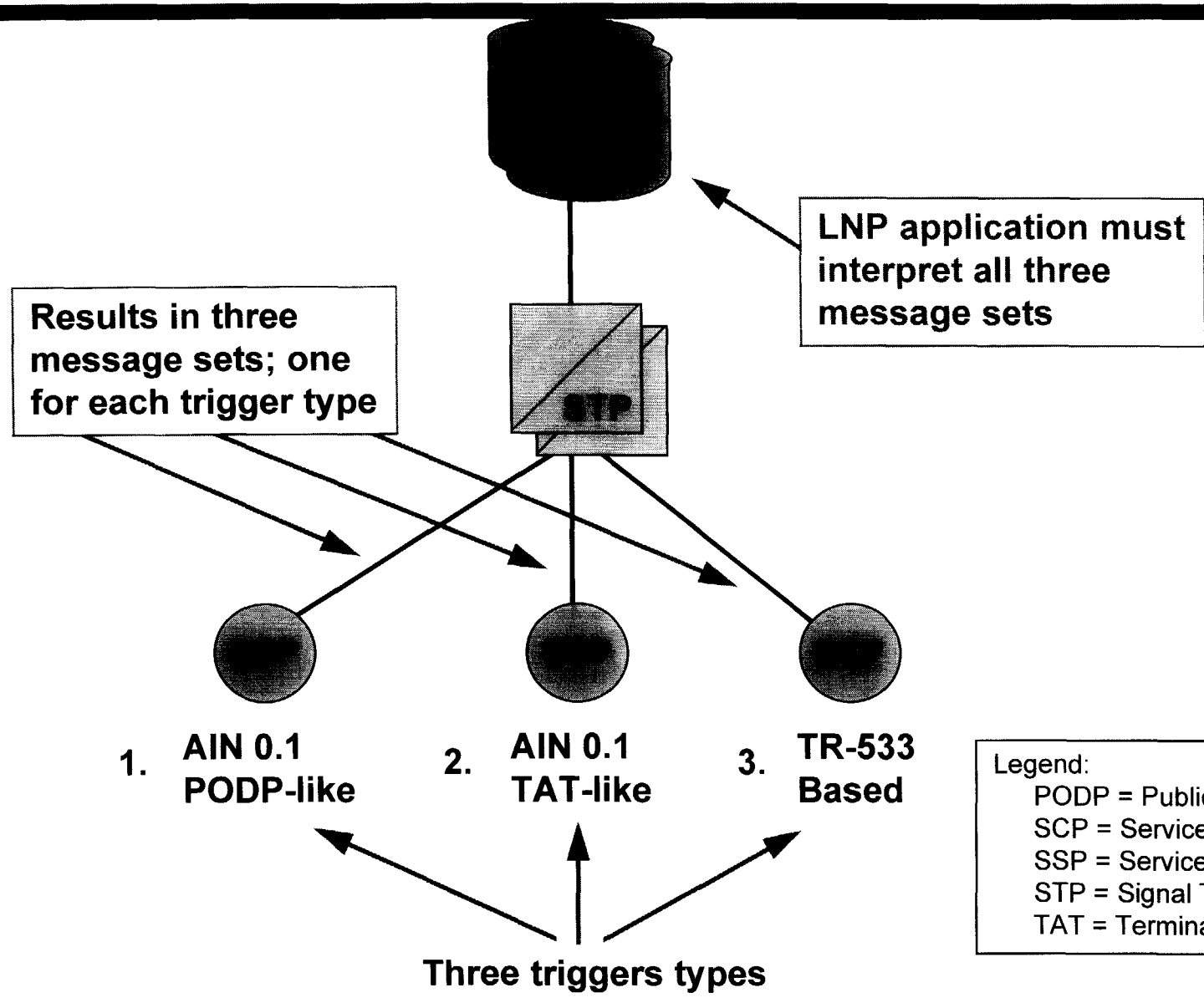
Multiple Trigger Types



Legend:
- PODP = Public Office Dial Plan
- SCP = Service Control Point
- SSP = Service Switching Point
- STP = Signal Transfer Point
- TAT = Terminating Access Trigger

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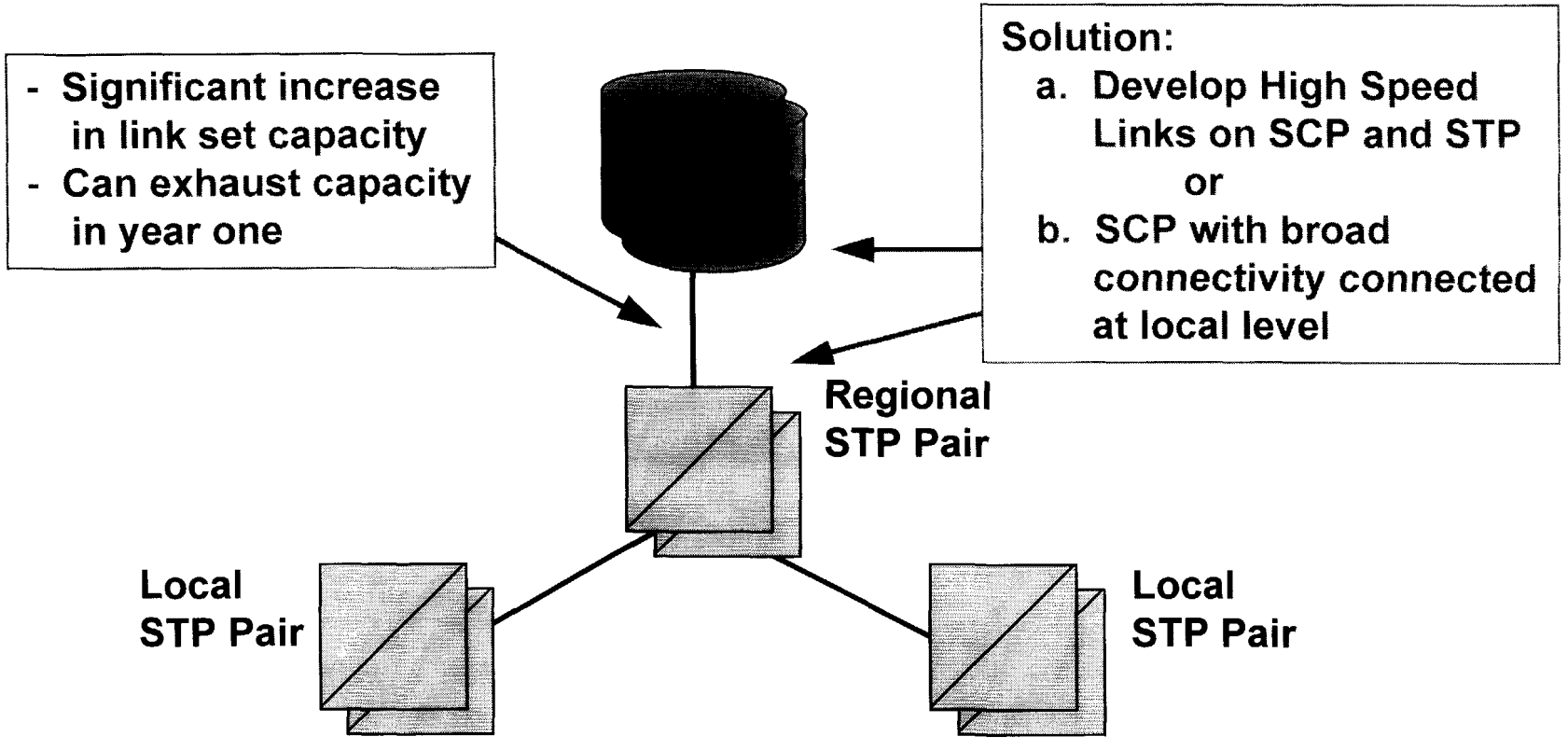
STP Impacts

- Signal Transfer Point (STP) Impacts
  - Increased traffic capacity
  - Significant increase in global title translation database sizing
  - Significant link increases due to increase in number of octets transmitted to complete a call

SCP Access Link Capacity



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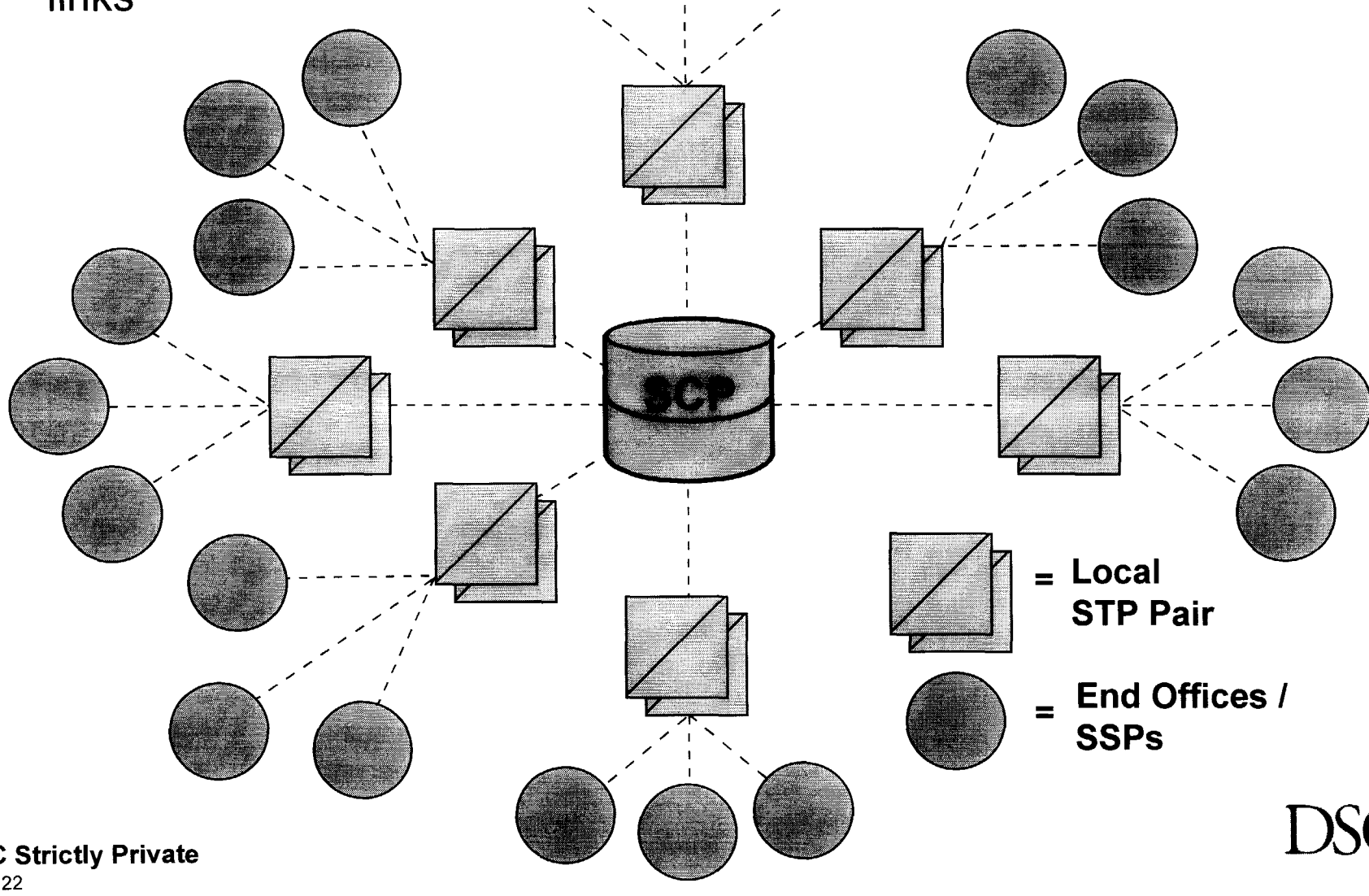
SCP w/ Broad Connectivity

- SCP with broad link set connectivity defers need for high speed links



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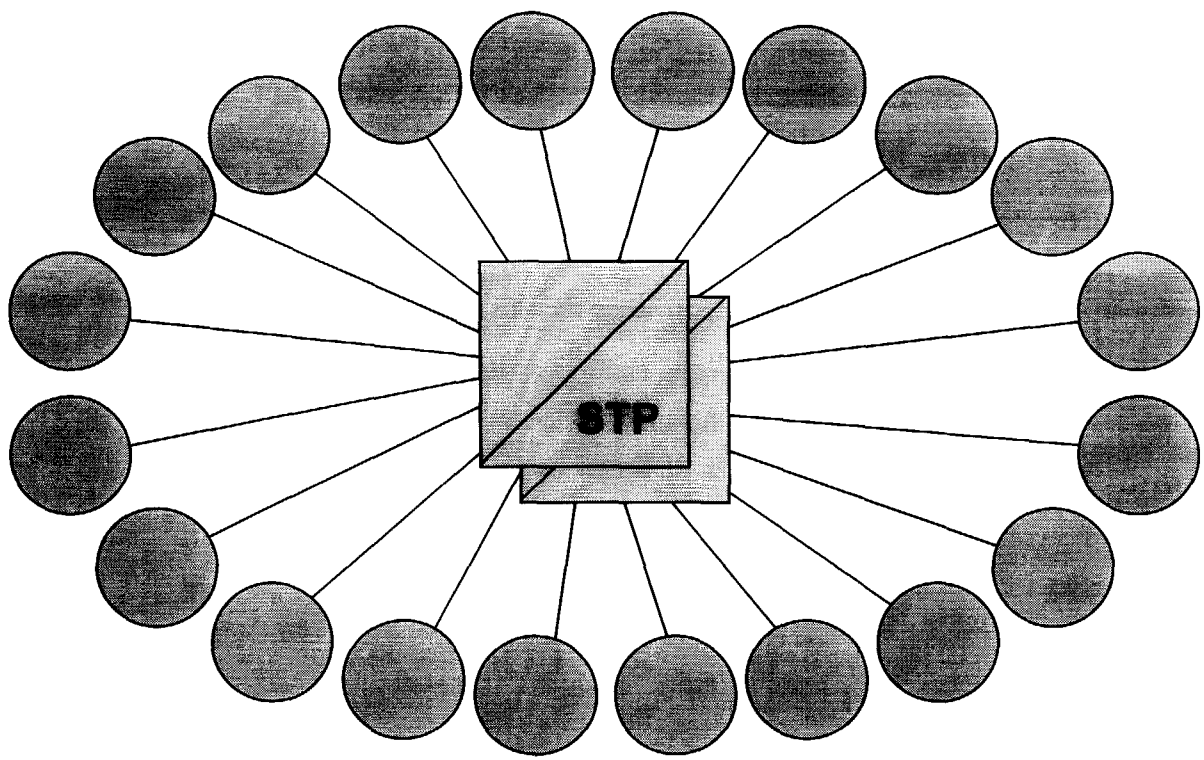
STP Alternative

- Alternative to use STP for broad SSP connectivity
  - ★LNP Queries and Responses done at the STP
- Further reduces demand on high speed links
- Migrateable to stand-alone SCP as capacity increases



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SCP Based Protocols

- SCP based applications need to be both AIN and IN/1 (TR-533) capable
  - Based on switch vendors ability to deliver solution in mid-97 time frame
- AIN 0.1 based solution
  - PODP-like and TAT-like Triggers
- IN/1 based solution (pre-AIN)
  - 800 Service based messaging protocol
- AIN 0.1 and IN/1 protocols must access same database

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